

FEB 09 2006

## FAX TRANSMISSION

DATE: February 9, 2006

PTO IDENTIFIER: Application Number 10/535646-Conf #9679  
Patent Number  
Inventor: James FRASER et al.

MESSAGE TO: US Patent and Trademark Office

FAX NUMBER: (571) 273-8300

FROM: LAHIVE &amp; COCKFIELD, LLP

Anthony A. Laurentano

PHONE: (617) 227-7400

Attorney Dkt. #: BTW-094US

PAGES (Including Cover Sheet): 18

CONTENTS: Request for Corrected Filing Receipt (2 Pages)  
Certificate of Transmission (1 Page)  
Copy of Preliminary Amendment (7 Pages)  
Copy of Filing Receipt (3 Pages)  
Copy of Application Data Sheet (4 Pages)

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PTO/SB/07 (08-04)

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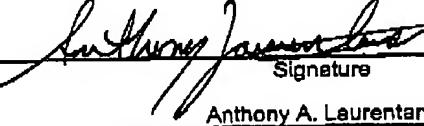
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Application No. (if known): 10/535646

Attorney Docket No.: BTW-084US

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on February 8, 2006  
Date  
SignatureAnthony A. Laurentano

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Request for Corrected Filing Receipt (2 Pages)

Copy of Preliminary Amendment (7 Pages)

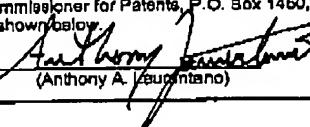
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Dated: February 9, 2006 Signature:   
(Anthony A. Lauputano)

Docket No.: BTW-094US  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
James Fraser *et al.*

Application No.: 10/535646

Confirmation No.: 9673

Filed: May 20, 2005

Art Unit: 2873

For: WAVELENGTH LOCKER

Examiner: Not Yet Assigned

REQUEST FOR CORRECTED FILING RECEIPTCommissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby requests that a corrected Filing Receipt be issued in the above-identified patent application. The official Filing Receipt received by Applicant, a copy of which is attached hereto, has the following errors:

In the Applicant(s) section, please correct the order of applicants and their residences. The list of applicants should read as follows:

--James FRASER, Torquay, United Kingdom;  
Stephen POPE, Towcester, United Kingdom;  
Kevin MULLANEY, Cogenhoe, United Kingdom;  
Herman GODFRIED Amsterdam, Netherlands;  
Evert HOUWMAN, Linden, Netherlands;--

Please see a copy of the originally filed Application Data Sheet enclosed.

In the Title section, please delete "comprising a diamond etalon." The correct title should read as follows:

--Wavelength Locker--.

Please see a copy of the previously filed Preliminary Amendment enclosed.

Application No.: 10/535646  
Group Art Unit: 2873

Docket No.: BTW-094US

Applicant additionally requests that all pertinent U.S. Patent and Trademark Office records relating to the subject application be changed to reflect this correction

Dated: February 9, 2006

Respectfully submitted,

By   
Anthony A. Laurentano  
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## UNITED STATES PATENT AND TRADEMARK OFFICE

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**COPY**

APPL NO.	FILING OR 371 (C) DATE	ART UNIT	FIL FEE RECD	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/535,646	05/20/2005	2873	1280	BTW-094US	3	25	2

CONFIRMATION NO. 9673

959

LAHIVE & COCKFIELD, LLP.  
28 STATE STREET  
BOSTON, MA 02109

## FILING RECEIPT



\*OC000000017459298\*

Date Mailed: 11/17/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Herman Godfreid, Amsterdam, NETHERLANDS;  
Evert Houwman, Linden, NETHERLANDS;  
James Fraser, Devon, UNITED KINGDOM; Torquay  
Stephen Pope, Northampton, UNITED KINGDOM; Towcester  
Kevin Mullaney, Northampton, UNITED KINGDOM; Cogenhoe

## Assignment For Published Patent Application

BOOKHAM TECHNOLOGY, PLC, TOWCESTER, UNITED KINGDOM

Power of Attorney: The patent practitioners associated with Customer Number 959.

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/GB03/05000 11/18/2003

## Foreign Applications

UNITED KINGDOM 0227144.3 11/21/2002

Projected Publication Date: 02/23/2006

Non-Publication Request: No

Early Publication Request: No

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**Title**

Wavelength locker comprising a diamond etalon--

**Preliminary Class**

359

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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**Title 35, United States Code, Section 184**

**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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**COPY****Application Data Sheet****Application Information**

Application Type:: Regular  
Subject Matter:: Utility  
Suggested Group Art Unit:: N/A  
CD-ROM or CD-R?:: None  
Sequence submission?:: None  
Computer Readable Form (CRF)?:: No  
Title:: WAVELENGTH LOCKER  
Attorney Docket Number:: BTW-094US  
Request for Early Publication?:: No  
Request for Non-Publication?:: No  
Small Entity?:: No  
Petition included?:: No  
Secrecy Order in Parent Appl.?:: No

**Applicant Information**

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City of mailing address:: Amsterdam

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**Postal or Zip Code of mailing address::** NL-5439 NE

#### **Correspondence Information**

**Correspondence Customer Number::** 00959

#### **Representative Information**

**Representative Customer Number::** 00959

#### **Domestic Priority Information**

Application::	Continuity Type::	Parent Application::	Parent Filing Date::
This Application	Continuation of	PCT/GB03/05000	11/18/03

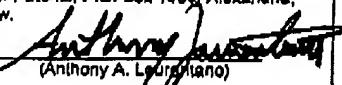
#### **Foreign Priority Information**

Country::	Application number::	Filing Date::	Priority Claimed::
United Kingdom	0227144.3	11/22/02	Yes

**Assignee Information**

Assignee name:: BOOKHAM TECHNOLOGY, PLC  
Street of mailing address:: Caswell  
City of mailing address:: Towcester  
Country of mailing address:: United Kingdom  
Postal or Zip Code of mailing address:: NN12 8EQ

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 563 868 630 US, in an envelope addressed to: MS PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: 20 May 2005      Signature:   
(Anthony A. LaGuardiano)

Docket No.: BTW-094US  
(PATENT)

**COPY**

**IN THE UNITED STATES PATENT OFFICE AS DESIGNATED OFFICE (DO/US)**

**In re Patent Application of:**  
James Fraser *et al.*

**International Application No.:** PCT/GB2003/005000

**International Filing Date:** November 18, 2003

**Application No.:** NEW APPLICATION

**Art Unit:** N/A

**Filed:** CONCURRENTLY HEREWITH

**Examiner:** Not Yet Assigned

**For:** WAVELENGTH LOCKER (AS AMENDED)

**FIRST PRELIMINARY AMENDMENT**

MS PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**INTRODUCTORY COMMENTS**

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 3 of this paper.

**Remarks/Arguments** begin on page 7 of this paper.

Application No.: NEW APPLICATION

Docket No.: BTW-094US

**AMENDMENTS TO THE SPECIFICATION****In the Specification:**

Please amend the title as follows:

~~WAVELENGTH LOCKER COMPRISING A DIAMOND ETALON~~

Page 1, line 2, after the title, please insert the following new paragraph:

**Related Applications**

This application is a 35 U.S.C. 371 national stage filing of International Application No. PCT/GB2003/005000, filed 18 November 2003, which claims priority to Great Britain Patent Application No. 0227144.3 filed on 21 November 2002 in Great Britain. The contents of the aforementioned applications are hereby incorporated by reference.

Page 1, after the Related Applications paragraph, insert the following title:  
"Background of the Invention"

Page 3, line 1 insert the following title: "Summary of the Invention"

Page 11, line 9 insert the following title: "Brief Description of the Drawings"

Page 11, line 19 insert the following title: "Description of Illustrated Embodiment"

Application No.: NEW APPLICATION

Docket No.: BTW-094US

AMENDMENTS TO THE CLAIMS

Please cancel claims 2, 9 and 11, amend claims 3-8, 10, and 12-26, and add new claims 27 and 28.

1. (original) A wavelength locker for locking the wavelength of a light beam substantially to a predetermined wavelength, the wavelength locker comprising at least one Fabry-Perot etalon arranged to receive a sample portion of the light beam and to produce at least one output light beam therefrom, the intensity of which is dependent upon the wavelength of the sample light beam, wherein the Fabry-Perot etalon comprises diamond.
2. (canceled)
3. (currently amended) A wavelength locker according to ~~Claim claim 1, or a wavelength drift detector according to Claim 2,~~ further comprising adjustment means, dependent upon the output of the etalon, for adjusting the wavelength of the light beam in order to reduce or eliminate ~~its~~a drift from the predetermined wavelength.
4. (currently amended) A wavelength locker ~~or drift detector according to Claim claim 3,~~ ~~in which~~ wherein the adjustment means comprise control electronics.
5. (currently amended) A wavelength locker ~~or drift detector according to Claim claim 3 or Claim 4,~~ ~~in which~~ wherein the adjustment means is/are arranged to control a light source that generates the light beam.
6. (currently amended) A wavelength locker ~~or drift detector according to Claim claim 5,~~ ~~in which~~ wherein the light source is remote from the wavelength locker~~or drift detector~~, and the adjustment means transmits a control signal to the light source to adjust the wavelength of the light beam.

Application No.: NEW APPLICATION

Docket No.: BTW-094US

7. (currently amended) A wavelength locker or drift detector according to ~~Claim claim~~ 5, in which wherein the light source comprises a part of the wavelength locker or drift detector.
8. (currently amended) A wavelength locker or drift detector according to ~~any preceding~~ claim 1, in which wherein the light beam comprises an optical signal, and the sample portion of the light beam comprises a sample portion of the optical signal.
9. (canceled)
10. (currently amended) A wavelength locker, ~~drift detector or transmitter~~ according to ~~Claim claim~~ 5 or any claim dependent thereon, in which wherein the light source comprises a laser.
11. (canceled)
12. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use~~ according to ~~any preceding~~ claim 1, in which wherein the diamond comprises a single crystal diamond.
13. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use~~ according to ~~any preceding~~ claim 1, in which wherein the diamond is a synthetic diamond.
14. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use~~ according to ~~Claim claim~~ 13, in which wherein the diamond has been formed by chemical vapour deposition.
15. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use~~ according to ~~any preceding~~ claim 1, in which wherein the diamond is substantially free from defects.

Application No.: NEW APPLICATION

Docket No.: BTW-094US

16. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any preceding claim 1, in which wherein~~ the diamond etalon comprises a partially-reflective input face and an opposite partially-reflective output face, separated by a thickness of the etalon.
17. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to Claim-claim 16, in which wherein~~ the input and output faces are substantially flat and lie in substantially parallel planes.
18. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to Claim-claim 16 or Claim 17, in which wherein~~ the input and output faces are polished.
19. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any one of claims claim 16 to 18, in which wherein~~ the input face and/or the output face is/are free from any coating.
20. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any one of claims claim 16 to 19, in which wherein~~ the thickness of the diamond etalon is at least 0.1 mm, preferably at least 0.2 mm, especially at least 0.5 mm.
21. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any one of claims claim 16 to 20, in which wherein~~ the thickness of the diamond etalon is no greater than 5.0 mm, preferably no greater than 4.0 mm, especially no greater than 2.0 mm.
22. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to Claim-claim 20 or Claim 21, in which the diamond etalon has a thickness in the range 1.0 mm to 1.5 mm, preferably having a thickness of 1.25 mm.~~

Application No.: NEW APPLICATION

Docket No.: BTW-094US

23. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any preceding claim 1, in which wherein~~ the diamond etalon has transmitted and reflected wavelength dependent output characteristics, each of which has a free spectral range of 2X GHz, allowing wavelength locking points at spacings of both 2X GHz and X GHz.
24. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to Claim claim 23, in which wherein~~ wavelength locking points at spacings of X GHz are determined by a difference between the transmitted and reflected wavelength dependent output characteristics of the etalon.
25. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to Claim claim 24, in which wherein~~ the amplitude of the difference between the transmitted and reflected wavelength dependent output characteristics of the etalon is preset such that the wavelength locking points are X GHz apart.
26. (currently amended) A wavelength locker, ~~drift detector, transmitter, or use according to any one of claims claim 23 to 25, in which wherein~~ X is 25.
27. (new) A wavelength drift detector for detecting the drift of the wavelength of a light beam from a predetermined wavelength, the wavelength drift detector comprising at least one Fabry-Perot etalon arranged to receive a sample portion of the light beam to produce at least one output light beam therefrom, the intensity of which is dependent upon the wavelength of the sample light beam, wherein the Fabry-Perot etalon comprises diamond.
28. (new) An optical signal transmitter comprising a wavelength locker according to claim 8, the optical signal transmitter including a light source which generates the optical signal.

Application No.: NEW APPLICATION

Docket No.: BTW-094US

REMARKS

Preliminary to examination of this application, please amend the specification to amend the title, to add priority claim, and to insert section headings. Please cancel claims 2, 9 and 11, amend claims 3-8, 10, and 12-26, and add new claims 27 and 28 as set forth above. Applicants amend the claims to remove multiple dependencies, provide proper antecedent basis, and to address other matters of form. The foregoing amendments are not related to issues of patentability. Support for the amendments to the claims can be found throughout the specification, Figures and claims as originally filed.

Applicants respectfully submit that the foregoing amendments introduce no new matter. Entry of the foregoing Preliminary Amendment is in order and requested.

If there are any questions regarding the proposed amendments to the application, we invite the Examiner to call Applicant's representative at the telephone number below.

Applicants believe no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. BTW-094US from which the undersigned is authorized to draw.

Dated: 20 May 2005

Respectfully submitted,

By   
Anthony A. Laurenzano  
Registration No.: 38,220  
LAHIVE & COCKFIELD, LLP  
28 State Street  
Boston, Massachusetts 02109  
(617) 227-7400  
(617) 742-4214 (Fax)  
Attorney/Agent For Applicants